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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/870,807	05/31/2001	Peter V. Boesen	P03999US8	2090

22885 7590 07/23/2003

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EXAMINER
HARVEY, DIONNE

ART UNIT	PAPER NUMBER
2643	

DATE MAILED: 07/23/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
09/870,807	Boesen
Examiner	**Art Unit**
Dionne Harvey	2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.

2a) ☒ This action is **FINAL.** 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-21 is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 1-21 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Claim 19 recites "a transmitter...for *simultaneously* transmitting..." in line 11.

Claim Rejections - 35 U.S.C. § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 19 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 19 is amended to recite "a transmitter...for *simultaneously* transmitting..." in line 11.

Claim Rejections - 35 U.S.C. § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson (US 5,721,783) in view of Bauman (US 6,048,305).

Regarding claim 1, Anderson teaches sensing a bone conduction signal from a bone conduction sensor (12; also see column 26, lines 57-60) disposed within the external auditory canal of a user; transmitting the sensed bone conduction signal from a transmitter(13) to a PDA (see column 5-6 lines 22-25 wherein Anderson teaches that the speech signals are picked up by the earpiece and transmitted to the RPU for processing. The RPU may include straight forward connections to a PDA or voice operated device); and processing the sensed bone conduction signal at the PDA to create a processed audio signal. Anderson does not teach that the sensor is disposed such that at least one wall of the external auditory canal remains unobstructed to allow ambient sound into the external auditory canal and to avoid the occlusion effect.

In figures 1, 2, and 4, Bauman teaches that an in-ear hands-free voice communication device may be constructed such that at least one wall of the external auditory canal remains unobstructed. It would have been obvious for one of ordinary skill in the art at the time of the

invention to substitute the housing structure in figure 1 or figure 4 of Bauman for the housing structure in figure 1 of Anderson, thereby allow ambient sound into the external auditory canal and to avoid the occlusion effect (see Bauman, column 6, lines 31-36).

Regarding claim 2, The combination of Anderson and Bauman teaches a bone conduction sensor mounted such that the device is fitted to the contours of the posterior superior wall of the external auditory canal (see figure 1 of Bauman).

Regarding claim 3, in column 25, lines 4-7, Anderson teaches a cellular transceiver.

Regarding claim 4, Anderson teaches transmitting the processed signal from a PDA or other communications device to a receiver(13) and to a speaker(15) disposed within the earpiece.

Regarding claim 5, in column 26, lines 39-50, Anderson teaches a voice recognition function.

Regarding claim 6, Anderson teaches a voice activation function (see claim 66).

Regarding claim 7, Anderson teaches sensing an air conduction signal from an air conduction sensor(12) disposed within the external auditory canal and in a position *proximate* the posterior superior wall of the external auditory canal; transmitting the sensed air conduction signal from a transmitter(13) to a PDA; and processing the sensed air conduction signal at the PDA to create a processed audio signal.

Anderson does not specifically teach that the air conduction sensor is non-occlusively disposed within the external auditory canal of the user.

In figures 1, 2, and 4, Bauman teaches that an in-ear hands-free voice communication device including an air conduction sensor (column 9, line 46), constructed such that the air conduction sensor is non-occlusively disposed within the external auditory canal of the user.. It would have been obvious for one of ordinary skill in the art at the time of the invention to substitute the housing structure in figures 1,2 or 4 of Bauman for the housing structure in figure 1 of Anderson, thereby allow ambient sound into the external auditory canal and to avoid the occlusion effect (see Bauman, column 6, lines 31-36).

Regarding claim 8, in column 25, lines 4-7, Anderson teaches a cellular transceiver.

Regarding claim 9, Anderson teaches transmitting the processed signal from a PDA or other communications device to a receiver(13) and to a speaker(15) disposed within the earpiece.

Regarding claim 10, in column 26, lines 39-50, Anderson teaches a voice recognition function.

Regarding claim 11, Anderson teaches a voice activation function (see claim 66).

2. Claims 12-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson (US 5,721,783) in view of Bauman (US 6,048,305) and further in view of Kruger (US 5,692,059). Regarding claims 12,13 and 19, as set forth in the rejections of claims 1 and 7, above, the combination of Anderson and Bauman teaches sensing an air or bone conduction signal from a non-occluding air or bone conduction sensor(12) disposed within the external auditory canal and in a position proximate the posterior superior wall of the external auditory canal;

transmitting the sensed air or bone conduction signal from a transmitter (13) to a PDA; processing the sensed air or bone conduction signal at the PDA to create a processed audio signal; and a receiver (transceiver-13 functions as both transmitter and receiver). The combination of Anderson and Bauman fails to teach simultaneously transmitting signals from both an air sensor and bone conduction sensor.

In column 3, lines 40-48, Kruger teaches the combined use of a bone sensor and air sensor in an in-ear voice communication device and further teaches that the signals for each device is transmitted simultaneously (column 3, line 41-46). It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of Anderson, Bauman and Kruger, thereby using both an air and bone sensor for the earpiece of Anderson, for sensing a wider band of voice frequencies and for better speech intelligibility.

Regarding claim 14, the limitations of the claim are rejected for the same reasons set forth in the rejection of claim 2.

Regarding claims 15 and 20, in column 25, lines 4-7, Anderson teaches a cellular transceiver.

Regarding claims 16 and 21, Anderson teaches transmitting the processed signal from a PDA or other communications device to a receiver(13) and to a speaker(15) disposed within the earpiece.

Regarding claim 17, in column 26, lines 39-50, Anderson teaches a voice recognition function.

Regarding claim 18, Anderson teaches a voice activation function (see claim 66).

Response to Arguments

Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dionne Harvey whose telephone number is (703) 305-1111. The examiner can normally be reaches on Monday through Friday from 8:30am to 6:00pm.

Any responses to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, DC 20231

or faxed to:

(703) 308-6306, for formal communications for entry

Or:

(703) 308-6296, for informal or draft communications, please label "PROPOSED" or "DRAFT".

Hand delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor(Receptionist)

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz, can be reached at (703) 305-4708.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dionne Harvey whose telephone number is (703) 305-1111.

D.H.

July 16, 2003

CURTIS KUNTZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600